

Title (en)

SPRING BRAKE ACTUATOR AND CAGING BOLT THEREFOR

Title (de)

FEDERSPEICHERBREMSZYLINDER UND BOLZENVERRIEGELUNG DAFÜR

Title (fr)

CYLINDRE DE FREIN A RESSORT ET BOULON DE BLOCAGE PREVU A CET EFFET

Publication

EP 0705391 B1 20011212 (EN)

Application

EP 93923735 A 19930928

Priority

- US 9309214 W 19930928
- US 3667793 A 19930325

Abstract (en)

[origin: US5725076A] A connector for a spring brake actuator comprises a threaded bolt having at least one flat portion on an outer surface thereof, a nut having a threaded central aperture threaded onto the bolt, and an embossment on the nut, extending inwardly of the central aperture to frictionally engage the flat portion of the bolt, so that the embossment prevents rotation of the nut with respect to the bolt. A method for fixedly attaching a nut onto a bolt comprises forming a flat portion on an outer surface of the bolt, threading the nut onto the bolt in alignment with the flat portion, and pressing inwardly of the nut with a punching tool to cause a portion of the material of the nut to extend inwardly of the central aperture forming an embossment in engagement with the flat portion on the bolt to hold the nut rigid with respect to the bolt.

IPC 1-7

F16B 39/28; F16D 65/24; F01B 7/00

IPC 8 full level

B60T 13/04 (2006.01); **B60T 17/08** (2006.01); **F16B 35/04** (2006.01); **F16B 39/02** (2006.01); **F16D 65/14** (2006.01); **F16D 65/22** (2006.01);
F16D 65/28 (2006.01); **F16B 17/00** (2006.01)

CPC (source: EP US)

B60T 17/086 (2013.01 - EP US); **F16B 39/026** (2013.01 - EP US); **F16D 65/14** (2013.01 - EP US); **F16D 65/28** (2013.01 - EP US);
F16B 17/00 (2013.01 - EP US)

Designated contracting state (EPC)

DE ES FR GB IT PT

DOCDB simple family (publication)

US 5725076 A 19980310; AU 5349094 A 19941011; AU 679010 B2 19970619; CA 2136532 A1 19940929; CA 2136532 C 20031230;
DE 69331337 D1 20020124; DE 69331337 T2 20020822; DE 705391 T1 19970430; EP 0705391 A1 19960410; EP 0705391 A4 19950526;
EP 0705391 B1 20011212; ES 2094703 T1 19970201; JP 3553593 B2 20040811; JP H07508087 A 19950907; WO 9421931 A1 19940929

DOCDB simple family (application)

US 74380196 A 19961105; AU 5349094 A 19930928; CA 2136532 A 19930928; DE 69331337 T 19930928; DE 93923735 T 19930928;
EP 93923735 A 19930928; ES 93923735 T 19930928; JP 52099794 A 19930928; US 9309214 W 19930928